

Abstract

A transmission filter apparatus for spatially dependent intensity filtering of an incident light distribution comprises at least one retardation device (23) that can be operated in transmission for the purpose of producing a spatially dependent retarding effect on the light of the incident light distribution, it being possible to drive the retardation device (23) in order to produce a temporally variable, spatially dependent retarding effect, and also comprises at least one polarization filter arrangement (24) arranged in the light path downstream of the retardation device. The transmission filter apparatus (22) is suitable, in particular, for use in illumination systems of microlithography projection exposure machines, since the transmission filtering effect can be set in a temporally variable fashion, and can therefore be tuned to the change in the illumination settings of the illumination system. An exposure method for a substrate can advantageously be carried out with the aid of an illumination system according to the invention.

(Figure 1 refers)

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